STEP FOUR: EVALUATION

OBJECTIVE

- DEFINE EVALUATION
- DESCRIBE STEPS IN EVALUATION PROCESS

EVALUATION

- QUANTIFY AND JUDGE CONTRIBUTIONS OF PLANS
- FIND VALUE OR WORTH OF PLANS
- IDENTIFY PLANS FOR COMPARISON

EVALUATION AND COMPARISON

- EVALUATION - LOOK AT PLAN ON ITS OWN MERITS
- COMPARISON - CONTRAST THE MERITS AMONG PLANS

EVALUATION STEPS

- FORECAST WITH PROJECT CONDITION
- COMPARE WITH PLAN TO WITHOUT
- ASSESS EFFECTS
- APPRAISE EFFECTS
- QUALIFY PLANS

WITH VS WITHOUT

EFFECT	WITHOUT CONDITION	PLAN A CONDITION
POPULATION	147,000	147,000
ANNUAL DAMAGE	$2.1 Million	$0.7 Million
WETLAND ACRES	412	258

SIGNIFICANT EFFECTS

- INSTITUTIONAL
- PUBLIC
- TECHNICAL

ASSESS EFFECTS

- **DESCRIBE AND MEASURE EFFECTS IN TERMS OF:**
  - **MAGNITUDE**
  - **TIMING AND DURATION**
  - **LOCATION**
  - **OTHERS**

MAGNITUDE

NED -

EQ - habitat units, acres of wetlands, target species, etc

RED - $$$$, employment, urban development, tourism, recreation, etc

OSE - people displaced, community cohesion, etc.

MEASUREMENT TECHNIQUES

- PRINCIPLES AND GUIDELINES
- ER 1105-2-100
- NED MANUALS (IWR)
- EVALUATION OF ENVIRONMENTAL INVESTMENTS RESEARCH PROGRAM REPORTS

PRODUCT OF ASSESSMENT

EFFECT	WITHOUT CONDITION	PLAN A CONDITION
POPULATION (No change)	147,000	147,000
ANNUAL DAMAGE ($1.4 Million reduction downtown)	$2.1 Million	$0.7 Million
WETLAND ACRES (154-acre decrease along river)	412	258

APPRAISE EFFECTS

- JUDGE IMPACTS
  - MOSTLY SUBJECTIVE
    - STUDY TEAM
  - P&G - EQ, RED, OSE
  - NED -

- WEIGHT SIGNIFICANCE

- USE P&G CRITERIA

QUALIFY PLANS

IDENTIFY PLANS THAT DESERVE TO BE COMPARED AGAINST EACH OTHER

EVALUATION STANDARDS

- MEET MINIMUM STANDARDS

- CRITERIA TO DEFINE STANDARDS:
  - Planning objectives & constraints
  - Federal objective
  - Environmental consultation and coordination requirements
  - P&G

PLANNING OBJECTIVES

- ***Objective - Reduce current risk of damage due to flooding.***
  - ***Does the plan achieve the objective?***
  - ***To what extent is the objective met?***

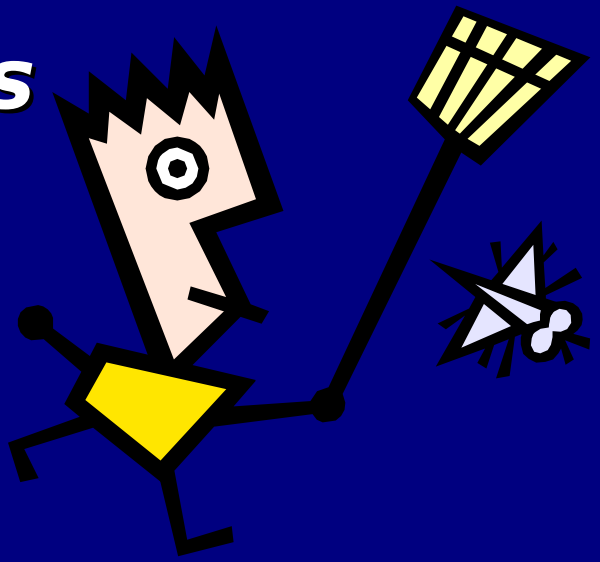
- ***Constraint - Induced flooding downstream should not exceed 1 feet.***
  - ***Does the plan avoid/meet the constraint?***

FEDERAL OBJECTIVE

- ***Contribution of plan to NED benefits.***
- **Environmental restoration - contribution of plan to NER benefits**

ENVIRONMENTAL CONSULTATION AND COORDINATION REQUIREMENTS

- Endangered Species
- Cultural Resources
- Fish and Wildlife
- Etc



PRINCIPLES AND GUIDELINES

- **FOUR SUBJECTIVE CRITERIA:**
  - **COMPLETENESS**
  - **EFFECTIVENESS**
  - **EFFICIENCY**
  - **ACCEPTABILITY**

COMPLETENESS

Includes all features and costs needed to realize effects.

- ***Federal and non-Federal***

EFFECTIVENESS

- MEET NEEDS
- SOLVE PROBLEMS
- ACHIEVES OPPORTUNITIES
- ATTAINS OBJECTIVES

EFFICIENCY

- **COST-EFFECTIVENESS:**
  - Cost of plan
  - Opportunities sacrificed
  - All costs - financial plus economic
  - Benefits

ACCEPTABILITY

- **IMPLEMENTABLE**
  - **TECHNICALLY FEASIBLE**
  - **SPONSOR LIKES IT**
- **STATE OR LOCAL GOVERNMENTS STANDARDS AND/OR FEDERAL STANDARDS**

EXERCISE